

## SEQUENCE LISTING

<110> Merck & Co., Inc.  
Xia, Menghang  
Williams, Mark E.

<120> Nucleic Acid Molecules Encoding Novel  
Human Low-Voltage Activated Calcium Channel Proteins,  
Designated - Alpha 1I-1 and Alpha 1I-2, Encoded Proteins and  
Methods of Use Thereof

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Val	Ile	Thr	Leu	Glu	Gly	Trp	Val	Glu	Ile	Met	Tyr	Tyr	Val	Met	Asp
		355					360					365			
Ala	His	Ser	Phe	Tyr	Asn	Phe	Ile	Tyr	Phe	Ile	Leu	Leu	Ile	Ile	Val
	370					375					380				
Gly	Ser	Phe	Phe	Met	Ile	Asn	Leu	Cys	Leu	Val	Val	Ile	Ala	Thr	Gln
385				390						395					400
Phe	Ser	Glu	Thr	Lys	Gln	Arg	Glu	His	Arg	Leu	Met	Leu	Glu	Gln	Arg
				405					410					415	
Gln	Arg	Tyr	Leu	Ser	Ser	Ser	Thr	Val	Ala	Ser	Tyr	Ala	Glu	Pro	Gly
			420					425					430		
Asp	Cys	Tyr	Glu	Glu	Ile	Phe	Gln	Tyr	Val	Cys	His	Ile	Leu	Arg	Lys
		435					440					445			
Ala	Lys	Arg	Arg	Ala	Leu	Gly	Leu	Tyr	Gln	Ala	Leu	Gln	Ser	Arg	Arg
	450					455					460				
Gln	Ala	Leu	Gly	Pro	Glu	Ala	Pro	Ala	Pro	Ala	Lys	Pro	Gly	Pro	His
465				470						475					480
Ala	Lys	Glu	Pro	Arg	His	Tyr	Gln	Leu	Cys	Pro	Gln	His	Ser	Pro	Leu
				485					490					495	
Asp	Ala	Thr	Pro	His	Thr	Leu	Val	Gln	Pro	Ile	Pro	Ala	Thr	Leu	Ala
			500					505					510		
Ser	Asp	Pro	Ala	Ser	Cys	Pro	Cys	Cys	Gln	His	Glu	Asp	Gly	Arg	Arg
		515					520					525			
Pro	Ser	Gly	Leu	Gly	Ser	Thr	Asp	Ser	Gly	Gln	Glu	Gly	Ser	Gly	Ser
	530					535					540				
Gly	Ser	Ser	Ala	Gly	Gly	Glu	Asp	Glu	Ala	Asp	Gly	Asp	Gly	Ala	Arg
545				550						555					560
Ser	Ser	Glu	Asp	Gly	Ala	Ser	Ser	Glu	Leu	Gly	Lys	Glu	Glu	Glu	Glu
				565				570						575	
Glu	Glu	Gln	Ala	Asp	Gly	Ala	Val	Trp	Leu	Cys	Gly	Asp	Val	Trp	Arg
			580					585					590		
Glu	Thr	Arg	Ala	Lys	Leu	Arg	Gly	Ile	Val	Asp	Ser	Lys	Tyr	Phe	Asn
		595					600					605			
Arg	Gly	Ile	Met	Met	Ala	Ile	Leu	Val	Asn	Thr	Val	Ser	Met	Gly	Ile
	610					615					620				
Glu	His	His	Glu	Gln	Pro	Glu	Glu	Leu	Thr	Asn	Ile	Leu	Glu	Ile	Cys
625				630						635					640
Asn	Val	Val	Phe	Thr	Ser	Met	Phe	Ala	Leu	Glu	Met	Ile	Leu	Lys	Leu
				645					650					655	
Ala	Ala	Phe	Gly	Leu	Phe	Asp	Tyr	Leu	Arg	Asn	Pro	Tyr	Asn	Ile	Phe
			660					665					670		
Asp	Ser	Ile	Ile	Val	Ile	Ile	Arg	Pro	Pro	Thr	Ala	Ala	Ser	Tyr	Leu
		675					680					685			
Tyr	Pro	Gly	Pro	Ala	Leu	Arg	Asp	Arg	Ser	Ile	Trp	Glu	Ile	Val	Gly
	690					695					700				
Gln	Ala	Asp	Gly	Gly	Leu	Ser	Val	Leu	Arg	Thr	Phe	Arg	Leu	Leu	Arg
705				710						715					720
Val	Leu	Lys	Leu	Val	Arg	Phe	Met	Pro	Ala	Leu	Arg	Arg	Gln	Leu	Val
				725					730					735	
Val	Leu	Met	Lys	Thr	Met	Asp	Asn	Val	Ala	Thr	Phe	Cys	Met	Leu	Leu
			740					745					750		
Met	Leu	Phe	Ile	Phe	Ile	Phe	Ser	Ile	Leu	Gly	Met	His	Ile	Phe	Gly
	755						760					765			
Cys	Lys	Phe	Ser	Leu	Arg	Thr	Asp	Thr	Gly	Asp	Thr	Val	Pro	Asp	Arg

770	Lys	Asn	Phe	Asp	Ser	Leu	775	Leu	Trp	Ala	Ile	Val	780	Thr	Val	Phe	Gln	Ile
785	Leu	Thr	Gln	Glu	Asp	Trp	790	Asn	Val	Val	Leu	795	Tyr	Asn	Gly	Met	Ala	Ser
				805							810						815	
	Thr	Ser	Pro	Trp	Ala	Ser	Leu	Tyr	Phe	Val	Ala	Leu	Met	Thr	Phe	Gly		
			820						825					830				
	Asn	Tyr	Val	Leu	Phe	Asn	Leu	Leu	Val	Ala	Ile	Leu	Val	Glu	Gly	Phe		
			835					840					845					
	Gln	Ala	Glu	Gly	Asp	Ala	Asn	Arg	Ser	Tyr	Ser	Asp	Glu	Asp	Gln	Ser		
		850					855					860						
	Ser	Ser	Asn	Ile	Glu	Glu	Phe	Asp	Lys	Leu	Gln	Glu	Gly	Leu	Asp	Ser		
	865					870					875					880		
	Ser	Gly	Asp	Pro	Lys	Leu	Cys	Pro	Ile	Pro	Met	Thr	Pro	Asn	Gly	His		
				885					890						895			
	Leu	Asp	Pro	Ser	Leu	Pro	Leu	Gly	Gly	His	Leu	Gly	Pro	Ala	Gly	Ala		
			900					905						910				
	Ala	Gly	Pro	Ala	Pro	Arg	Leu	Ser	Leu	Gln	Pro	Asp	Pro	Met	Leu	Val		
			915					920					925					
	Ala	Leu	Gly	Ser	Arg	Lys	Ser	Ser	Val	Met	Ser	Leu	Gly	Arg	Met	Ser		
		930					935					940						
	Tyr	Asp	Gln	Arg	Ser	Leu	Ser	Ser	Ser	Arg	Ser	Ser	Tyr	Tyr	Gly	Pro		
	945					950					955					960		
	Trp	Gly	Arg	Ser	Ala	Ala	Trp	Ala	Ser	Arg	Arg	Ser	Ser	Trp	Asn	Ser		
				965						970					975			
	Leu	Lys	His	Lys	Pro	Pro	Ser	Ala	Glu	His	Glu	Ser	Leu	Leu	Ser	Ala		
			980						985					990				
	Glu	Arg	Gly	Gly	Gly	Ala	Arg	Val	Cys	Glu	Val	Ala	Ala	Asp	Glu	Gly		
			995					1000					1005					
	Pro	Pro	Arg	Ala	Ala	Pro	Leu	His	Thr	Pro	His	Ala	His	His	Val	His		
			1010				1015					1020						
	His	Gly	Pro	His	Leu	Ala	His	Arg	His	Arg	His	His	Arg	Arg	Thr	Leu		
	1025				1030					1035						1040		
	Ser	Leu	Asp	Asn	Arg	Asp	Ser	Val	Asp	Leu	Ala	Glu	Leu	Val	Pro	Ala		
				1045						1050					1055			
	Val	Gly	Ala	His	Pro	Arg	Ala	Ala	Trp	Arg	Ala	Ala	Gly	Pro	Ala	Pro		
			1060						1065					1070				
	Gly	His	Glu	Asp	Cys	Asn	Gly	Arg	Met	Pro	Ser	Ile	Ala	Lys	Asp	Val		
			1075					1080					1085					
	Phe	Thr	Lys	Met	Gly	Asp	Arg	Gly	Asp	Arg	Gly	Glu	Asp	Glu	Glu	Glu		
			1090				1095					1100						
	Ile	Asp	Tyr	Thr	Leu	Cys	Phe	Arg	Val	Arg	Lys	Met	Ile	Asp	Val	Tyr		
	1105				1110					1115					1120			
	Lys	Pro	Asp	Trp	Cys	Glu	Val	Arg	Glu	Asp	Trp	Ser	Val	Tyr	Leu	Phe		
				1125						1130					1135			
	Ser	Pro	Glu	Asn	Arg	Phe	Arg	Val	Leu	Cys	Gln	Thr	Ile	Ile	Ala	His		
			1140						1145					1150				
	Lys	Leu	Phe	Asp	Tyr	Val	Val	Leu	Ala	Phe	Ile	Phe	Leu	Asn	Cys	Ile		
			1155					1160					1165					
	Thr	Ile	Ala	Leu	Glu	Arg	Pro	Gln	Ile	Glu	Ala	Gly	Ser	Thr	Glu	Arg		
			1170				1175						1180					
	Ile	Phe	Leu	Thr	Val	Ser	Asn	Tyr	Ile	Phe	Thr	Ala	Ile	Phe	Val	Gly		
	1185				1190						1195					1200		
	Glu	Met	Thr	Leu	Lys	Val	Val	Ser	Leu	Gly	Leu	Tyr	Phe	Gly	Glu	Gln		
				1205						1210					1215			
	Ala	Tyr	Leu	Arg	Ser	Ser	Trp	Asn	Val	Leu	Asp	Gly	Phe	Leu	Val	Phe		
			1220						1225					1230				
	Val	Ser	Ile	Ile	Asp	Ile	Val	Val	Ser	Leu	Ala	Ser	Ala	Gly	Gly	Ala		
			1235					1240					1245					
	Lys	Ile	Leu	Gly	Val	Leu	Arg	Val	Leu	Arg	Leu	Leu	Arg	Thr	Leu	Arg		
			1250				1255					1260						
	Pro	Leu	Arg	Val	Ile	Ser	Arg	Ala	Pro	Gly	Leu	Lys	Leu	Val	Val	Glu		
	1265				1270						1275					1280		
	Thr	Leu	Ile	Ser	Ser	Leu	Lys	Pro	Ile	Gly	Asn	Ile	Val	Leu	Ile	Cys		



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		1795					1800					1805			
Gly	Ser	Ile	Phe	His	His	Tyr	Ser	Ser	Pro	Ala	Gly	Cys	Lys	Lys	Cys
	1810					1815					1820				
His	His	Asp	Lys	Gln	Glu	Val	Gln	Leu	Ala	Glu	Thr	Glu	Ala	Phe	Ser
1825					1830					1835					1840
Leu	Asn	Ser	Asp	Arg	Ser	Ser	Ser	Ile	Leu	Leu	Gly	Asp	Asp	Leu	Ser
				1845					1850						1855
Leu	Glu	Asp	Pro	Thr	Ala	Cys	Pro	Pro	Gly	Arg	Lys	Asp	Ser	Lys	Gly
			1860				1865						1870		
Glu	Leu	Asp	Pro	Pro	Glu	Pro	Met	Arg	Val	Gly	Asp	Leu	Gly	Glu	Cys
		1875					1880					1885			
Phe	Phe	Pro	Leu	Ser	Ser	Thr	Ala	Val	Ser	Pro	Asp	Pro	Glu	Asn	Phe
	1890					1895					1900				
Leu	Cys	Glu	Met	Glu	Glu	Ile	Pro	Phe	Asn	Pro	Val	Arg	Ser	Trp	Leu
1905					1910					1915					1920
Lys	His	Asp	Ser	Ser	Gln	Ala	Pro	Pro	Ser	Pro	Phe	Ser	Pro	Asp	Ala
				1925					1930						1935
Ser	Ser	Pro	Leu	Leu	Pro	Met	Pro	Ala	Glu	Phe	Phe	His	Pro	Ala	Val
			1940					1945					1950		
Ser	Ala	Ser	Gln	Lys	Gly	Pro	Glu	Lys	Gly	Thr	Gly	Thr	Gly	Thr	Leu
		1955					1960					1965			
Pro	Lys	Ile	Ala	Leu	Gln	Gly	Ser	Trp	Ala	Ser	Leu	Arg	Ser	Pro	Arg
	1970					1975					1980				
Val	Asn	Cys	Thr	Leu	Leu	Arg	Gln	Val	Pro	Thr	Pro	Pro	Arg	Pro	
1985					1990						1995				